HORISONTTI 2020
EU:n tutkimus- ja innovaatio-ohjelmat

# Horisontti 2020

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## H2020 SC2 Blue Growth calls 2018-2019

4.12.2017 - Heini Günther, Tekes

# SC2 WP2018-2020 - focus on 5 priorities:

1) **Addressing climate change and resilience on land and sea;**

   ->R&I actions for meeting ambitious climate targets & at the same time satisfying need of food, feed, bio-based products and energy for the fast growing population

2) **Making the transition towards a circular bioeconomy**

   -> Implementing EC Circular Economy package for a transition to sustainable, low carbon and resource efficient bioeconomy. Actions will support resource-efficient production, distribution and new business models.

3) **Fostering functional ecosystems, sustainable food systems, healthy lifestyles** -> sustainable primary production practises

4) **Boosting major innovations on land and sea – new products, value chains and markets** -> long term competitiveness of SC2 sectors

5) **Developing smart, connected territories and value chains in rural and coastal areas ->** R&I activities in primary production, food and biobased industries, taking account of long term drivers to create sustainable business opportunities, services and value chains in rural and coastal communities

# Implementation

**SC2 Budget 2018-2020: € 1,3 billion**

**3 missions:**

- Nourish people sustainably today and tomorrow
- Understand, preserve and valorize oceans
- Boost and modernize rural economies and communities

**Calls:**

**Sustainable food Security (SFS)**

**Blue Growth (BG)**

**Rural Renessaince (RUR)**

**+ Thematic Investment Platform on Circular Bioeconomy**

- Challenges of global nature, requiring development of global solutions -> opening up the innovation process
- Open science approach and international cooperation encouraged - particular priorities for  international cooperation:
  - BG flagship initiative for the South Atlantic Ocean (paving the way towards ”All Atlantic Ocean Research Alliance”)
  - Sustainable Food Security (cooperation with China and Africa in Food and Nutrition Security and Sustainable Agriculture)
- Multi-actor approach; to foster development of research into applications (idea to market) and creation of new ideas (cross-fertilisation and knowledge sharing between actors)

# Call; Blue Growth, 2018 (77.5 M€)

The call will boost the blue economy by:

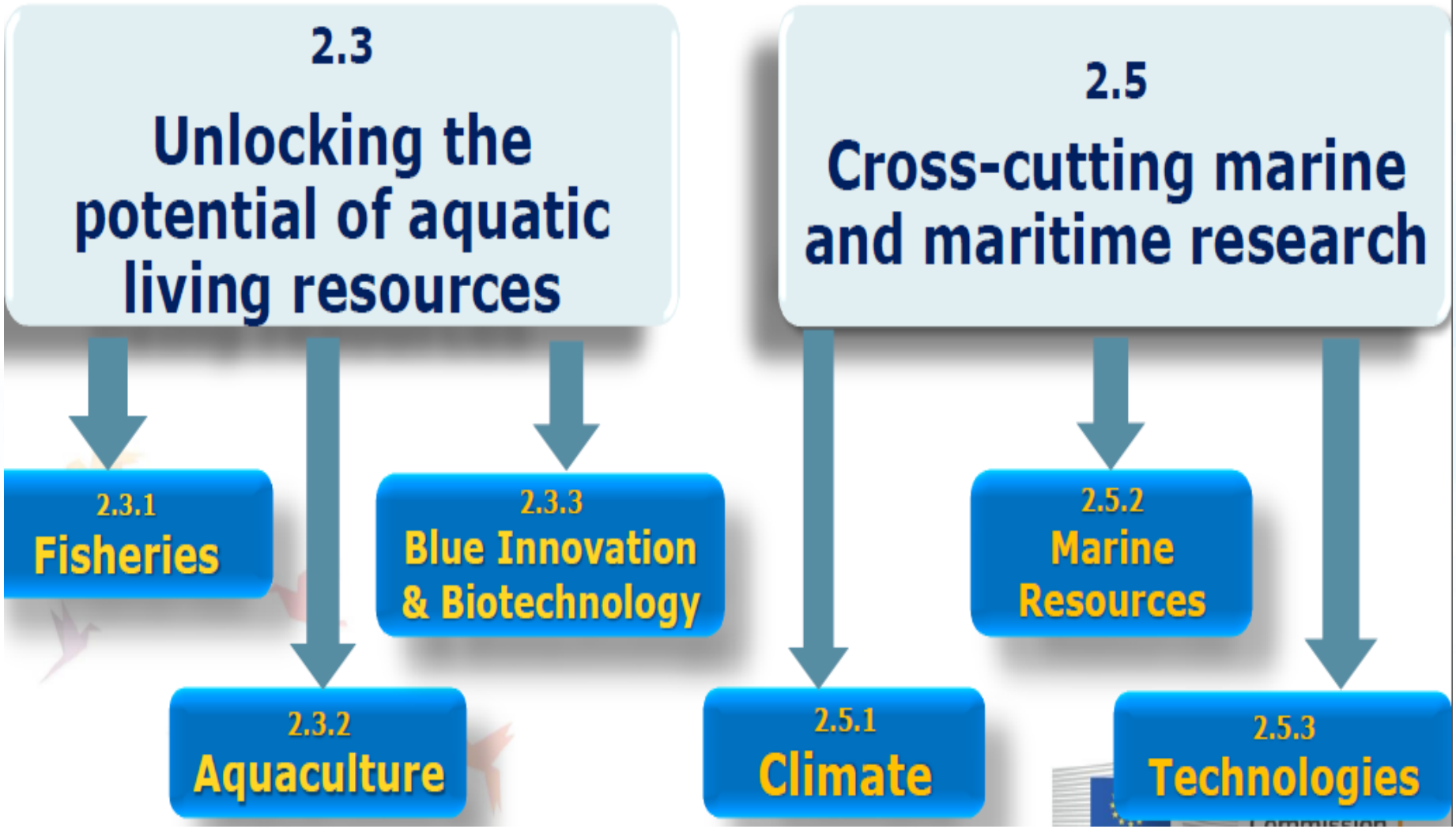
- Improving knowledge of climate change impacts on marine ecosystems in order to effectively manage their response, mitigation and resilience capacities
- Preserving and sustainably exploiting marine and coastal ecosystems and biological resources
- De-risking investments and boosting blue innovations to develop new marine value chains and open up new markets
- Developing smart and connected territories between land and sea
- Strengthening international R&I cooperation for globally sustainable blue economy
- Blue Growth call in 2018; 5 topics (77,5 M€)

# Infoweek on H2020 SC2 calls

14.11.2017 SC2 Information Day, Brussels; Blue Growth presentation materials and webcast:

- http://ec.europa.eu/information_society/newsroom/image/document/2017-46/bg_2018_B84D21A8-AB4C-A641-AC0CB2CC6162C9FF_48376.pdf (materials)
- https://webcast.ec.europa.eu/info-day-horizon-2020-societal-challenge-2-calls-for-proposals-2018-11-14-jenk (webcast)

# RATIONALE – legal base



# POLICY DRIVE

## EU

**COMMON FISHERIES POLICY, INTEGRATED MARITIME POLICY**

BLUE GROWTH AGENDA & SEA BASINS STRATEGIES

MARINE STRATEGY FRAMEWORK DIRECTIVE

MARITIME SPATIAL PLANNING

BLUE ENERGY, BLUE TOURISM, BLUE INNOVATION,

INTERNATIONAL OCEAN GOVERNANCE ...



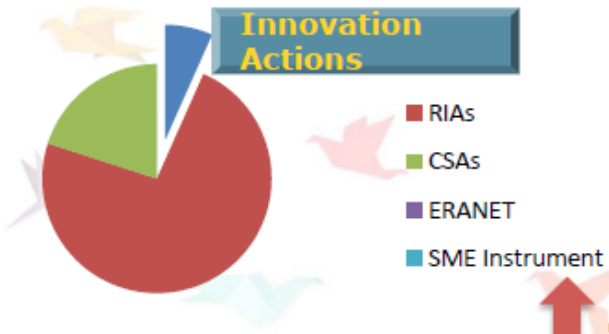


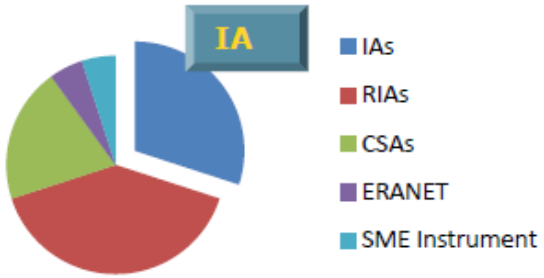
## INTERNATIONAL

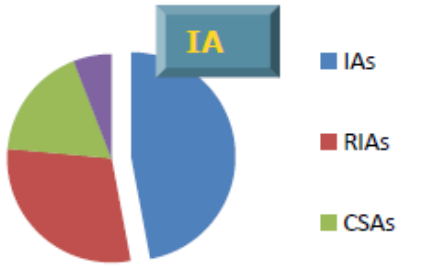


# Blue Growth calls Evolution

**2014-15** → **UNLOCKING** → **2016-17** → **DEMONSTRATING** → **2018-20** → **HARVESTING**



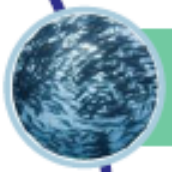

**INNOVATION**

European Commission

# Blue Growth Calls 2018-20

**€ 239 million to sustainably harvest the potential of aquatic and marine resources, while protecting biodiversity and enhancing climate resilience**

**Climate and Oceans**



**Food and Oceans**

**Marine value chains**

**Land and Sea**

**International cooperation**

European Commission

# Blue Growth topics (2018-2019)

## Climate-Ocean

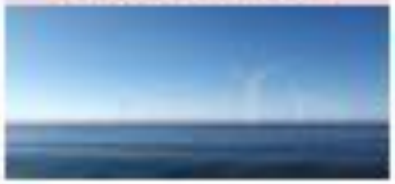
- Sustainable harvesting of marine biological resources
- Coordination of marine and maritime research and innovation in the Black Sea

## Food and Oceans

- Sustainable European aquaculture 4.0: breeding and feeding

## Marine value chains

- Multi-use of the marine space, offshore and near-shore: pilot demonstrators



## Land-Sea Connection

- Sustainable solutions for bio-based plastics on land and sea

## International cooperation

- All Atlantic Ocean Research Alliance
- The Future of Seas and Oceans
- Towards a Baltic and North Sea research and innovation programme

- Blue Bioeconomy Public-Public-Partnership

**9 topics, 166.5 M€**

## Climate – Oceans

- **Sustainable harvesting of marine biological resources** (LC-BG-03-2018)

  **RIA, 12 m€ (2 x 6)**

- **Co-ordination of marine and maritime R&I in the Black Sea** (LC-BG-09-2019)

  **CSA, 2 M€**

## Food and Oceans

- **Sustainable European aquaculture 4.0: breeding and feeding** (DT-BG-04-2018-19)

  **IA, 24 m€ (4 x 6)**

European Commission

## De-risking investments in marine value chains

- **Multi-use of the marine space, off shore and near shore : pilot demonstrators** (BG-05-2019)

**IA, 18 m€ (2 x 9)**

## Land and sea connection

- **Sustainable solutions for bio-based plastics on land and sea** (CE-BG-06-2019)

**IA, 18 m€ (2 x 9)**

European

# International co-operation

- **All Atlantic Ocean Research Alliance Flagship** (BG-08-2018-19)

  **64 M€ in 2018-19**

  - Co-ordinating Atlantic R&I CSA - 4 M€
  - Ecosystems assessment RIA - 9 m€ (x 3-4)
  - Aquaculture value chains RIA - 8 m€ (x 3-4)

- **The Future of Seas and Oceans** (BG-07-2019-20)

  **18 M€ in 2019**

  - Blue Cloud IA, 6 M €
  - Observations and forecasting IA, 12 M €
  - Technologies (tbc 2020)

European Commission

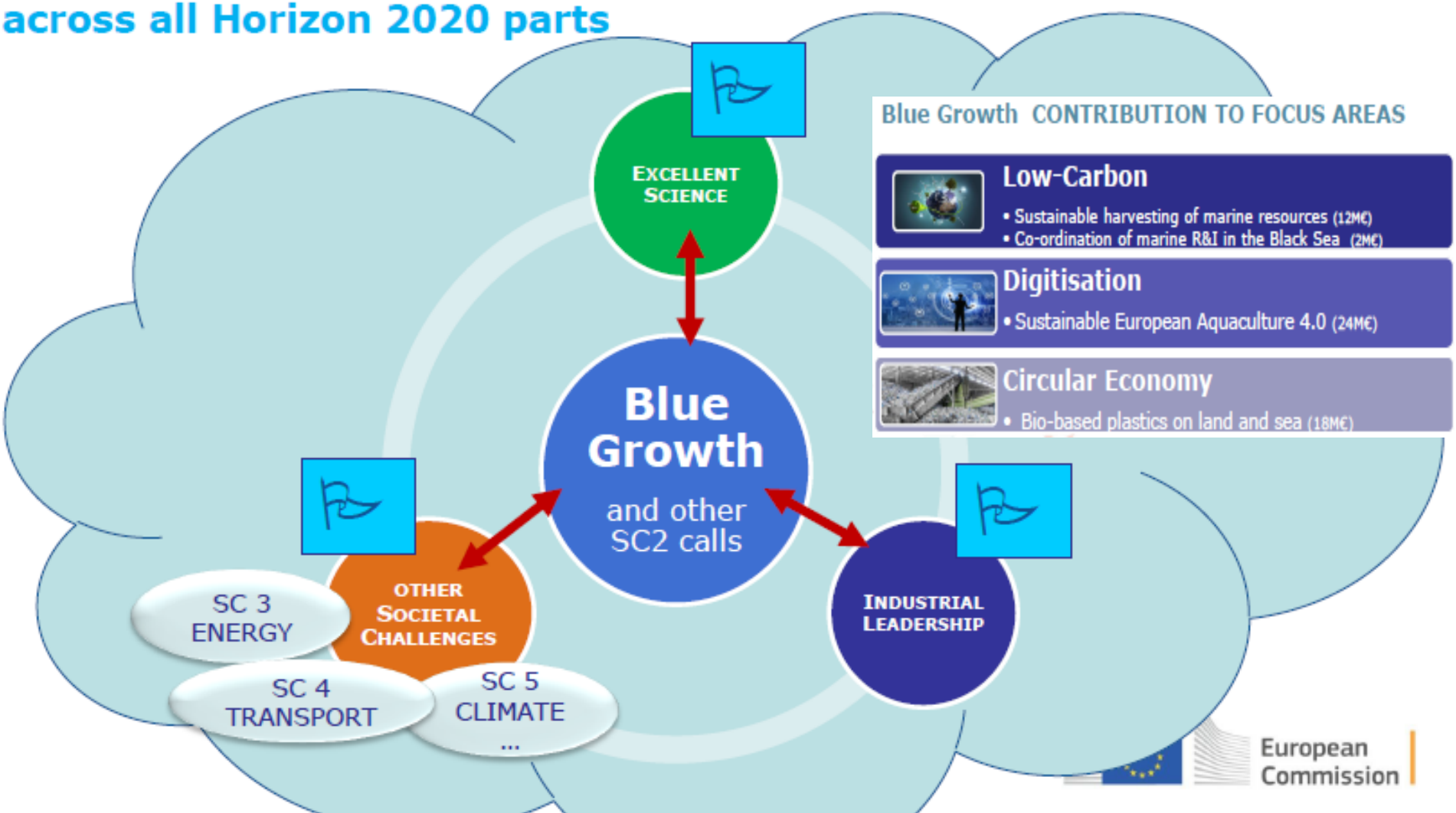
## Co-ordination and Support Actions , ERA-NET

- **Towards a Baltic and North Sea R&I programme**
  (BG-01-2018) CSA 2.5 M€
- **Co-ordination of marine and maritime R&I in the Black Sea**
  (LC-BG-09-2019) CSA, 2 M€
- **Co-ordination of marine and maritime R&I activities in the Atlantic Ocean** (BG-08-2018 [A]) CSA, 4 M€
- **Blue Bioeconomy Public-Public-Partnership**
  (BG-02-2018) ERA-NET-Cofund, 8 m€

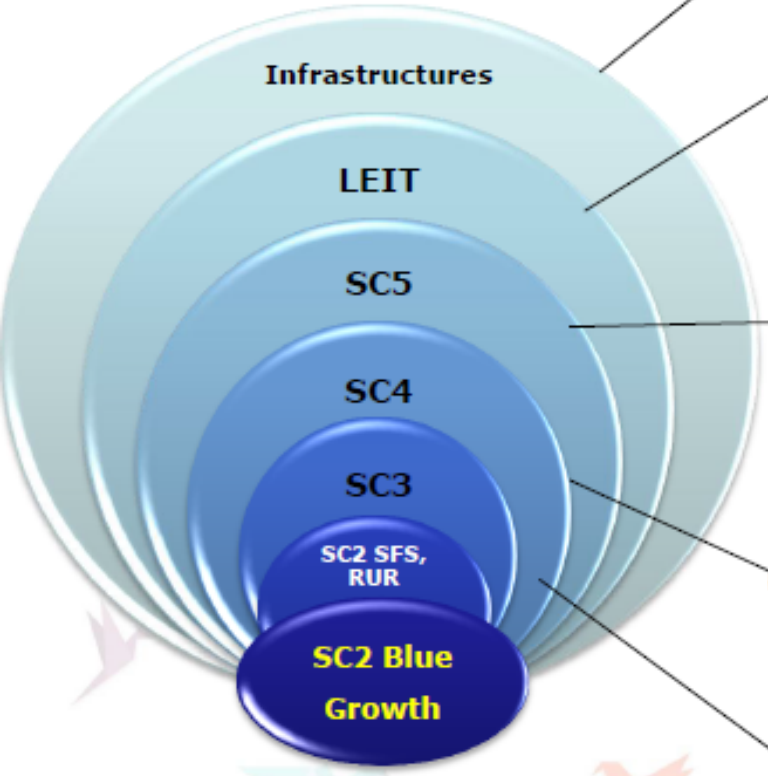
European Commission

# Blue Growth across Horizon 2020

## A strategic coordinated approach for marine and maritime research across all Horizon 2020 parts



# Blue Growth beyond SC2




TOPICS EXAMPLES

**Infrastructures**

- Research Vessels

**LEIT**

- SPACE – Copernicus Marine Services, ocean models
- NMBP: off-shore energy materials

**SC5 Climate**

- recovery of sea resources
- sea level changes
- ice-core drilling

**SC4 Transport**

- ships emissions
- unmanned & autonomous activities
- maritime transport safety

**SC3 Energy**

- wave energy
- offshore wind
- renewable energy technologies

# BG-01-2018: Towards a Baltic and North Sea research and innovation programme (CSA) 2,5 M€

**Background/Challenge**
**The Baltic Sea and the North Sea economy is critically dependent on the quality and extent of the ecosystem services they provide. To foster understanding of these coastal seas and the sustainable use of their goods and services challenges need to be addressed such as:**

•fragmentation, gaps in interdisciplinary knowledge, potential synergies and trade-offs between different sectors and the environment, science/policy/ industries interfaces, attention to the societal inclusiveness and human well-being
•well-coordinated research effort between these two regional seas is necessary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**Scope/Requirements to keep in mind**

•Creating the necessary conditions for coordinated research and innovation efforts bringing together the main national funding agencies in the North Sea and Baltic Sea region **in cooperation with BONUS *)**.

•Map and engage with relevant stakeholders in the region

•Preparation and delivery of a Joint Baltic-North Sea Strategic Research and Innovation Agenda, the creation of conditions (governance, management, financial, legal aspects and administration) and the development of an effective mechanism for its implementation, showing a strong commitment to achieve a sound level of integration (scientific, management and financial).

**Policy background documents/links:**

Blue Growth Agenda for the Baltic sea Region
https://ec.europa.eu/maritimeaffairs/content/delivering-sustainable-blue-growth-agenda-baltic-sea-region_en

EU Strategy for the Baltic Sea Region (EUSBSR)
http://ec.europa.eu/regional_policy/en/policy/cooperation/macro-regional-strategies/baltic-sea/

*) BONUS, the joint Baltic Sea research and development programme https://www.bonusportal.org/

**Expected Impact I: activities shall contribute to the following:**
**In the short term:**

- Overcome fragmentation in research and innovation by developing a joint Baltic-North Sea Marine and Maritime Strategic Research and Innovation Agenda by the Baltic Sea and the North Sea countries.
- Create lasting marine and maritime stakeholder platforms and integration mechanisms in the area, and establishing appropriate stakeholder collaboration mechanisms between the North Sea and Baltic Sea regions.

**Expected Impact II**
**In the medium term:**

- Create a framework and deliver the necessary mechanisms, based on experience gained by the current BONUS and other equivalent initiatives, for developing a European Baltic-North Sea Research and Innovation Programme.
- Contribute to improve the professional skills and competences of those working and being trained to work within the blue economy.
- Contribute to policymaking in research, innovation and technology.

# BG-02-2018: Blue Bioeconomy Public-Public Partnership ERA-NET Cofund 8M€

- Aquatic biomass (e.g. fish, selfish, microalgae, seaweeds and seagrasses) is currently underutilised (food, biofuels, pharmaceuticals, cosmetics etc.) due to a lack of synergies between sectors and of adequate investments. EU intervention is needed to create the conditions to mobilise investments by aligning national and regional innovation research agendas across different blue bioeconomy sectors.

- Activities shall pool the necessary financial resources of national and/or regional research programmes with a view to implementing a joint call for proposals with EU co-funding resulting in grants to third parties.
- Proposers are requested to implement other joint activities, including additional joint calls without EU co-funding.

**Expected impacts In the short term:**

• Create, test, upscale and bring to the market new knowledge-intensive products and services derived from aquatic biomass, fostering job creation and economic growth in Europe.

• Provide consumers with the knowledge needed to make informed decisions about safe, healthy and sustainable food and policy makers with robust scientific advice



**In the medium term:**

• Increase the efficient and sustainable use of by-products generated from blue bioeconomy sectors.

• Contribute to the UN SDG 2 target to ensure sustainable food production systems and the UN SDG 14 target to effectively regulate harvesting and end overfishing.

• Contribute to improve the professional skills and competences of those working and being trained to work within the blue economy.

• Contribute to policymaking in research, innovation and technology

# LC-BG-03-2018: Sustainable harvesting of marine biological resources (RIA) 12 M€

Low Carbon

- multi-actor approach
- adequate involvement of SMEs

- Provide **data, information** and **knowledge** on the potential **role** of **mesopelagic zone (200-1000 m)** micro- and macro-**organisms**
- Address **food safety**, **fisheries management**, **fishing techniques**, **processing** and **consumer acceptance** and **marketing**
- Assess **impacts** of **fishing** and **climate change**
- Assess the **potential** of mesopelagic resources for marine **biotechnological applications**.
- Develop an **ecosystem-based approach to exploitation**

**Expected Impacts:**

- Increase the **knowledge** of mesopelagic zone ecosystems and preserve their **ecological functioning**.
- Contribute to the UN SDG targets 2, 12, 13 and 14 and support the implementation of the Paris Agreement.
- Foster innovation for **food and nutrition security** and other bio-based value chains, **biodiversity preservation** and **climate resilience**.
- Improve the professional skills and competences of those working and being trained to work within the blue economy.
- Create jobs and growth in the fishing and processing sector as well as in the marine biotech Sector particularly in coastal areas.
- Contribute to policymaking in research, innovation and technology.






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# DT-BG-04-2008-2019 Sustainable European Aquaculture 4.0; nutrition and breeding (IA) 24 M€ (4 x 6 m€)

Digitisation

Europe depends heavily on import to ensure consumer demand for seafood -> aquaculture in EU needs to increase competitiveness and respond to consumer demand for safe food, in context of climate change and competition for natural resources


**Scope:**

- developing smart breeding programmes and/or tailor-made feeding formulas and technologies for aquaculture, targeting animal health and welfare, different production systems, feeding efficiency, resilience, climate change mitigation, zero waste, by-products valorisation (circularity principals)
- exploring potential of the microbiome on health and productivity of farmed species

**Activities** shall consider sound cost-effective production methods and profitability, testing, demonstrating, upscaling of production processes to pre-commercial product

- regulatory authority concerns and consumer demand addressed
- use of IoT and AI and deep participation of deep-tech start-ups encouraged

**Expected Impacts, short term:**

- Contribute to the creation of of improved sustainable aquaculture systems and resilient aquaculture practices
- Improve consumers´ awareness, perceptions and acceptability of European aquaculture products and methods
- **New value chains, markets, growth and jobs in coastal, offshore and landlocked areas**
- Contribute to ensure the genetic diversity of farmed algae, aquatic species and their related wild species

**Medium term:**

- **Increase available, accessible, affordable and nutritious food and feed**
- Improve the professional skills and competences of those working and being trained to work within the blue economy
- Contribute to policymaking in research, innovation and technology

# BG-05-2019: Multi-use of the marine space, offshore and near-shore: pilot demonstrators (IA) 18 M€ (2 x 9 M€)

Combining several activities in the same marine space, including in multi-use platforms, can serve to divide and reduce the costs of offshore operations. Research on multi-use platforms funded under the FP7 call 'The Oceans of Tomorrow' has provided promising designs, technological proposals and models for combining activities in terms of economic potential and environmental impact. Before reaching a stage enabling large scale installations, it is necessary to develop pilots for demonstration in a real environment of multi-use platforms or co-location of activities in a marine space with their logistic support, including service vehicles and port facilities.

-> pilots involving industrial actors, interdisciplinary, cross-sectorial nature

**Aim:** to demonstrate the economic, social and environmental added value of the multi-use of a marine space

-> Business plan & commercial economic feasibility assessment

- Pilots should also address health and safety issues, including for the logistics, ancillary infrastructure and maintenance services
- social acceptance and involvement
- Training activities improving the professional skills and competencies and supporting the creation of new jobs in the blue economy

**Activities, short term:**

- TRL 5 -> TRL 7, bring selected designs of multi-purpose use to validation in the real environment
- Improve health & safety in multi-use platforms
- Reduce costs of implementation and increase economic viability of multi-use of marine space
- Raise societal awareness and acceptance

**Medium term:**

Improve the professional skills and competences of those working and being trained to work within the blue economy

Contribute to policymaking in research, innovation and technology

# CE-BG-06-2019: Sustainable solutions for bio-based plastics on land and sea (IA) 18 M€ (2 x 9 M€)

Circular Economy

- In addition to the recycled plastics waste, alternative feedstock such as biomass is part of a more resource-efficient, greenhouse gas emission (GHG) neutral solution. As regards marine litter, while land-based sources are predominant as a result of land-sea interaction, sea-based sources such as shipping, fishing or aquaculture are also significant. As part of the mitigation efforts, biodegradable or compostable plastics for specific applications such as fishing gear could be a positive development if a clear sustainability framework for biodegradability conditions is provided.

**Scope:**

- Activities shall focus on sustainability strategies and solutions for bio-based products. They shall include innovative product design and business models facilitating efficient reuse and recycling strategies and solutions, including ensuring the safety of recycled materials. They shall address the technical and economic barriers to bio-based plastics recycling
- Activities shall also contribute to building a biodegradable plastics sustainability framework by mapping and focusing on the applications where biodegradable and compostable solutions could support public policies (pre-normative research including field tests)
- In line with the requirements of responsible research and innovation, activities shall support the development of international fora and platforms that would facilitate systemic innovation and uptake of results by enabling different actors of the value chains, from industry to civil society and public authorities, to cooperate towards more circularity in the bio-plastics economy.
- Activities shall build on results of former FP7 and H2020 projects and other relevant activities

**Short term activities:**

- Deliver solutions for (TRL) 5 ->TRL 6 or higher, where technological innovation is involved.
- Deliver results in a form that allows for efficient feedback into policymaking in research, innovation and technology, in particular in the EU Plastic Strategy.
- Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities
- Raise awareness and create a better framework for systemic innovation and uptake of results through broad stakeholder engagement.

**In the medium term:**

- Demonstrate solutions and develop strategies for circular innovation of the whole bio-plastics system,
- Contribute to the development of EU-harmonised criteria for biodegradability (in open-air and in oceanic conditions) and a sustainability framework that increase market transparency and improves waste management practices on land and sea.
- Contribute to the assessment of the impact of plastics (sea, land, human health)
- Improve the professional skills and competences of those working and being trained to work within the blue economy and the bioeconomy.
- Improve framework conditions and foster innovations that enable the plastics value chains to become more circular, resource-efficient and reduce their carbon and GHG footprint, in line with climate, energy and sustainable development goals (e.g. UN SDG 14)
- Contribute to policymaking in research, innovation and technology

# BG-07-2019-2020: The Future of Seas and Oceans Flagship Initiative (IA) 18 M€

## (A) 2019 - Blue Cloud services (6 m€)

**Activities:**

• develop cloud services for applications that are specific for oceans, seas and fresh water bodies and necessary for marine ecosystems research, conservation, forecasting and innovation in the Blue Economy, building and implementing also Blue Cloud demonstrators
• integrating Essential Ocean Variables (biological variables including plankton biomass and diversity)
• build on ongoing efforts (data, tools, EOSC etc.)

The action shall **contribute to unlocking the innovation potential of the Blue Cloud and demostrate its potential in promoting the blue economy shortening the time span between research and innovation in frontier fields**

• build on existing research infrastructures, take advantage of existing data sharing activities
• clustering with other projects

## (B) 2019 - Observations and forecasting (12 M€)

**Activities:**

- Developing cloud services for applications specific for oceans, seas and fresh water bodies, necessary for marine ecosystem research, conservation, forecasting and innovation in Blue Economy
- **Demonstration of smooth storage of data in open access data centres and the improvement of the predictive capability**
- **Essential Ocean Variables (EOV), augmented observatories**
- **Data collected shall be in line with agreed standards, be openly available etc.**

## (C) 2020 -Technologies for observations

- **Indicative topic**

## Expected Impacts:

•ongoing implementation of EU Policies

**In the short term**:

• support the implementation of the Future of the Oceans Initiative of the G7 Science Ministers.

•Deliver cloud services achieving TRL between 6 and 7 or higher.

•Achieve at least TRL 6 for ocean observations' systems and tools.

•Regularly measure 50% of biological and biogeochemical Essential Ocean Variables (EOV), including in the sea below 2000 m.

•Sustainable management and protection of marine and coastal ecosystems to avoid significant adverse impacts (UN SDG 14).

**In the medium term:**

•Increase scientific knowledge, develop research capacity and transfer marine technology.

•Improve forecasting of climate change, weather and ocean conditions.

•Improve the professional skills and competences.

•Contribute to policymaking in research, innovation and technology.

•Increase data sharing and increase integration of data.

# BG-08-2018-2019: All Atlantic Ocean Research Alliance (CSA + RIA) 64 M€

“The Atlantic Ocean is an invaluable shared resource. The societal value of its blue economy is enormous for countries located on its shores. The Atlantic Ocean is subject to a range of pressures, such as impacts related to climate change, pollution, fishing above sustainable levels, mining and coastal eutrophication.”

## The Policy context: European Policies & Global Commitments


Atlantic Strategy & Action Plan

Blue Growth Strategy


Ocean governance communication


Marine Strategy Framework Directive

EU Food 2030

## (A) 2018 - Coordinating marine and maritime R&I in the Atlantic (CSA) 4 M€;

- launching a multi-stakeholder platform to reinforce cooperation in the Atlantic – platform shall enhance business opportunities and the up-take of innovations e.g. aquaculture production systems and technologies, develp common standards for observing systems etc.
- reinforcing capacity building by aligning European training programmes, including through industrial apprenticeship opportunities and networking with Atlantic partners; promote citizen awareness and literacy on ocean issues

**Total budget B+C 60 M€ (33 M€ in 2018 + 27 M€ in 2019):**

## (B) 2018-2019 - Assessing Atlantic marine Ecosystems (RIA) 9 M€ (x 3-4)

- contributing to improve the sustainability of the exploitation of the marine resources, through extending climate based predictions
- demonstration of cost-effective approaches to management and processing of the large quantities of data, better coordinated data sharing and operability, as well as the development of improved forecasting capabilities

## (C) 2018-2019 - New value chains for aquaculture production (RIA) 8 M€ (x 3-4)

- Activities shall explore new species, products and/or processes for aquaculture production (including algae).
- Consideration shall be given to the design of Internet of Things (IoT) approaches in the development of innovative production technologies, including new/improved biosensors, the circularity of the processes with the objective of zero waste and consider consumers' concerns and demands.
- The development of monitoring programmes for risk assessment including emerging pollutants and climate change resilience and mitigation will be essential. Activities shall contribute to reduce risks to human health and foster higher levels of economic productivity.

## BG-08-2018-2019: All Atlantic Ocean Research Alliance Flagship - Expected IMPACT

**In the short term:**

- Contribute to the implementation of the EU-Brazil-South Africa Belém Statement on Atlantic Ocean Research and Innovation cooperation (sub-topics A, B & C).
- Improve the coordination and alignment of programmes etc. between South and North Atlantic regions and with the EU and its Member States (sub-topic A).
- Better and accurate monitoring, modelling, planning, management and prediction capacities in the whole Atlantic (sub-topics A & B).
- Create lasting industrial partnership on aquaculture between in the South Atlantic (sub-topic C).
- Contribute to creating sustainable food production systems and implementing resilient aquaculture practices (UN SDG 2) (sub-topic C).
- Contribute to the sustainable management and protection of marine and coastal ecosystems (UN SDG 14) (sub-topics A & B).

**In the medium term:**

•Ensure the long-term sustainable management of marine resources (UN SDG 14) (sub-topic B).

•Ensure that nutritious and safe food is available and affordable for all (UN SDG 2 and SDG 13) (sub-topic C).

•Contribute to achieving a zero waste European aquaculture system, by 2030 (sub-topic C).

•Increase EU leadership in ocean technology developments (sub-topics A, B & C).

•Increase consumers' trust and confidence in seafood products (sub-topic C).

•Create a well trained workforce able (sub-topics A & C).

•Consolidate education, training networks, ocean-engaged citizens (sub-topic A).

•Improve the professional skills and competences within the blue economy.

•Contribute to policymaking in research, innovation and technology (sub-topics A, B & C).

**Some requirements to keep in mind:**

•Eligibility and admissibility conditions: In addition to the minimum number of participants**, proposals shall include participants from South Africa and Brazil.** Under this topic, legal entities established in Brazil are eligible for EU funding
•Reinforce capacity building along and across the Atlantic Ocean, in particular, but not exclusively, with South Africa and Brazil and other Atlantic Ocean coastal states
•Consortia encouraged to include participants from countries bordering the Atlantic Ocean
•Include a task to cluster with other projects
•Possible links with related research and innovation activities supported by the Belmont Forum on Ocean sustainability shall also be considered.

**Background documents &** Links:

•EU-Brazil-South Africa Belém Statement on Atlantic Research and Innovation Cooperation, July 2017
http://ec.europa.eu/research/iscp/pdf/belem_statement_2017_en.pdf

•EU-Canada-US Galway Statement on Atlantic Ocean Cooperation, May 2013
https://ec.europa.eu/research/iscp/pdf/galway_statement_atlantic_ocean_cooperation.pdf

•South-South Framework for Scientific and Technical Cooperation in the South and Tropical Atlantic and Southern Ocean
https://www.atlanticresource.org/aora/sites/default/files/GalleryFiles/AtlanticFacts/South--South-Framework-for-Scientific-and-Technical-Cooperation-in-the-S....pdf

•Focus on Atlantic Strategy - FP7 and H2020 Projects
https://www.atlanticresource.org/aora/site-area/atlantic-policy-research/h2020-fp7-funded-projects

# LC-BG-09-2019: Coordination of marine and maritime research and innovation in the Black Sea (CSA) 2 M€

Low Carbon

Climate change is influencing the physical dynamics and hydrological structure of the Black Sea, while nutrient and pollutant loads are flowing from growing urban areas, inland and coastal activities. Increasing maritime traffic is also leading to safety concerns, water and air pollution and the introduction of invasi.ve alien species.

A common marine and maritime R&I strategy needs to be developed in order to achieve knowledge-based, sustainable and long- lasting Blue Growth in the region.

**Scope:**

Proposals shall develop a Strategic Research and Innovation Agenda and Implementation Plan and contribute to the further alignment and convergence of national research and innovation activities and other relevant initiatives and investments by and with the different actors and across different sectors in primis between the countries bordering the Black Sea coasts and the whole EU. Activities shall establish and consolidate an operational network of marine and maritime research funders and other key players.

**Activities shall In the short term:**

• Deliver a Strategic and Innovation Research Agenda, structuring and consolidating research and innovation around the Black Sea and in cooperation with the rest of the EU.

• Boost the knowledge base and contribute to creating the right conditions for the development of new technologies and services and to improve human capacity and infrastructure in the Black Sea region.

**In the medium term:**

• Boost the blue economy and contribute to creating more jobs in the Black Sea region by coordinating and aligning EU, national and regional marine and maritime research programmes.

• Increase the competitiveness of EU researchers, industry and SMEs within the marine and maritime sectors.

• Maximise the impact of science diplomacy through enhanced marine cooperation in the Black Sea region.

• Improve the professional skills and competences of those working and being trained to work within the blue economy.

• Contribute to making the Black Sea healthier, more productive, resilient, better known and valued.

• Contribute to policymaking in research, innovation and technology.

**Activities shall support the design and implementation of new transnational joint activities This action shall build on past and on-going regional, international as well national and EU projects/initiatives**

# The NCPs are there to help!


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